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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,314	03/30/2004	David P. Kippie	PA-00404US	3626

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EXAMINER
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FIGUEROA, JOHN J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/813,314

Applicant(s)

KIPPIE ET AL.

Examiner

John J. Figueroa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2 and 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 2 and 6 recite the phrase " ... a pre-gelatinized crosslinked amylopectin starch which has been *crosslinked to the extent that the viscosity of a basic aqueous amylopectin starch suspension undergoing crosslinking is within 25% to less than about 50% of the maximum viscosity which can be obtained.*" [Emphasis added] This phrase is extremely confusing.

Did Applicant intend to recite that the recited suspension is crosslinked in addition to the amylopectin starch? Moreover, which suspension is Applicant referring to? Is it a suspension that is a component of the claimed well fluid or, alternatively, is it an arbitrary suspension that is not a component of the well fluid?

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent Number (USPN) 5,804,535 to Dobson et al., hereinafter ('Dobson').

Dobson discloses a well drilling fluid and a process for increasing the low shear rate viscosity thereof, said drilling fluid formed from adding a biopolymer viscosifier, a pre-gelatinized amylopectin starch derivative and, optionally, a bridging agent (such as magnesium oxide) to a brine of potassium or cesium formate salt; wherein the amylopectin has been modified by crosslinking by about 25-60%. (See Abstract; col. 2, lines 38-65; col. 3, lines 3-24 and 50-63; col. 12, lines 25-40 and 53-67) The biopolymer can be an extracellular polysaccharide of high molecular weight produced from microorganisms of the genus *Xanthomonas* (e.g. xanthan gum) or, alternatively, from other bacteria or fungi, such as, succinoglycan-type polysaccharide sugars and polysaccharides derived from microbes of the genus *Pseudomonas*, *Agrobacterium*, *Arthrobacter*, *Rhizobium* and *Sclerotium*. (Col. 4, lines 28-43)

Dobson further discloses examples of the drilling fluid in potassium formate and cesium formate brines having low shear rate viscosities of up to 180,000 centipoise at 121°C. (See Table 4 for data on the fluid of Example 4 which is a potassium formate brine containing a crosslinked pre-gelatinized amylopectin starch and xanthan gum; Tables 7-8 disclosing rheological properties of drilling fluids of Example 7 and 8).

Dobson also discloses that the high shear viscosity of the drilling fluid can be

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manipulated by the amount of viscosifier present and the concentration of biopolymer viscosifier is 0.5 to 4 lbs/barrel.

Although Dobson does not specifically disclose the high shear rate viscosity at  $511 \text{ sec}^{-1}$ , because Dobson's disclosed drilling fluid and that encompassed by the instant claims have the same composition, then both drilling fluids must inherently have the same rheological and physical properties, such as high shear viscosity.

Thus, the claims are anticipated by Dobson.

5. Claims 1-2, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,420,319 B1 to Estes et al., hereinafter ('Estes').

Estes discloses a method for treating wells using a drilling fluid composition containing an amylopectin waxy maize starch and 0.25 lbs/bbl of xanthan gum in sodium chloride brine. (See Abstract, Samples C, F and G in col. 6, lines 11-45; Tables 1-6) The amylopectin starch can be cross-linked with epichlorohydrin within 30-70% of the maximum peak viscosity. (Col. 3, line 48-60).

Estes discloses in Table 1 "plastic viscosity" for the various drilling fluid samples, Estes does not specifically disclose the low shear rate viscosity or high shear rate viscosity at  $511 \text{ sec}^{-1}$ . However, because the disclosed drilling fluid in Estes and that encompassed by the instant claims have the same composition, then both drilling fluids must inherently have the same rheological and physical properties, such as low shear rate viscosity and high shear viscosity.

Thus, the claims are anticipated by Estes.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Estes.

Estes was discussed above. As discussed previously, Estes discloses samples of the drilling fluid containing 0.25 pounds/barrel of xanthan gum. (See e.g., Samples D-H on Table 5 and A-D on Table 6; col. 7, lines 29-55). Estes does not disclose drilling fluids having less than 0.25 pounds/barrel of xanthan gum.

However, although Estes does not explicitly disclose a sample of the drilling fluid having less than 0.25 lbs/bbl, the amount of xanthan gum present in the drilling would have been an obvious variant that can be optimized or manipulated in accordance with, e.g., the density of amylopectin in the drilling fluid as discussed by Estes in col. 7, lines 29-45.

Moreover "a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected [the claimed product and a product disclosed in the prior art] to have the same properties." *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) In the instant case, Applicant has not shown the criticality

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to the invention of the drilling fluid having less than 0.25 lbs of xanthan gum per barrel as opposed to the drilling fluid in Estes having xanthan gum present in an amount of 0.25 lbs. per barrel.

Thus, the claim is unpatentable over Estes.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

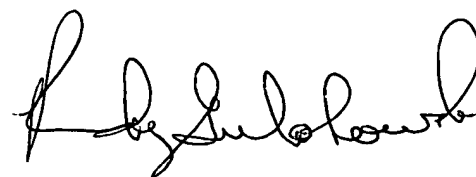
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Monday-Thursday & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJF/RAG

A handwritten signature in black ink, appearing to read 'Randy Gulakowski', with a stylized, cursive script.

RANDY GULAKOWSKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1